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FEB 12 6 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

FEB 2 6 2004

In re patent application of

Viehland et al.

Application No.:

10/687,970

Date Filed:

October 20, 2003

Group Art Unit:

1773

Examiner:

Not Assigned

For:

MAGNETOELECTRIC MAGNETIC FIELD SENSOR WITH LONGITUDINALLY

BIASED MAGNETOSTRICTIVE LAYER

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Under the provisions of 37 C.F.R. 1.97 through 1.98 and pursuant to applicant's duty of disclosure under 37 C.F.R. 1.56, applicant respectfully brings the following documents listed in the attached from PTO-1449, to the attention of the Examiner in charge of the above-identified application. Copies of the listed documents is provided herewith for the convenience of the Examiner.

The present Information Disclosure Statement is being filed no later than three months from the application's filing date and/or before the mailing date of an Office Action on the merits, whichever is later.

This citation does not constitute an admission that the references are relevant or material to the claims. They are only cited as constituting related art of which the applicant is aware.

It is respectfully requested that the documents be considered by the Examiner and formally made of record in this application.

Respectfully submitted,

Michael E. Whitham Reg. No. 32,635

Whitham, Curtis & Christofferson, P.C. 11491 Sunset Hills Road, Suite 340 Reston, VA 20190 (703) 787-9400 CUSTOMER NUMBER 30743

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			Clarke et al.; "The Impact of High-Temperature Superconductivity on SQUID Magnetometers"; Science 242 (4876); pgs. 217-223; Oct. 14, 1988									
		r A	Van et a	l.; "A Three Physics Lett	-Phase ters; Vo	Magnetoelec l. 81, No. 20;	tric Compo pgs. 3831-	site of Piezoelectric Cer 3833; Nov. 11, 2002	ramics, Rare-I	Earth Iron Alloy	s, and Poly	mer";
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		Avellaneda et al.; "Ma Intelligent Material Sy	gnetoelectric Effect in l stems and Structures, V	Piezoelectric/Magnetostrictiv /ol. 5; pgs. 501-513; July 199	ve Multilayer (2- 94	2) Composites'	'; Journal	of	
		Bichurin et al.; "Theor Journal of Applied Phy	y of Low-Frequency M sics, Vol. 92, No. 12; p	lagnetoelectric Effects in Fei gs 7681-7683; Dec. 15, 2002	rromagnetic-Fer	roelectric Laye	red Compo	osites";	
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		Srinivasan et al.; "Magi Oxides"; Physical Revie	netoelectric Effects w B, Vol. 65, 1344	in Bilaye 02; 2002	rs and Multilayers of	Magnetostrictiv	e and Piezoelect	tric Perovs	kite		
		Nan et al.; "Coupled Ma Applied Physics, Vol.94	agnetic-Electric Pr , No. 9; pgs 1-7; No	operties a ov. 1, 2003	nd Critical Behavior	in Multiferroic	Particulate Com	posites; Jo	urnal of		
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			Srinivasan et al.; "Giant Titanate"; Solid State C	Magnetoelectric E ommunications 124	ffects in Layered Composites o ; pgs 373-378; 2002	f Nickel Zinc Fe	errite and Lead	Zirconate	- "	

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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Ryu et al.; "Magnetoelectric Properties in Piezoelectric and Magnetostricitve Laminate Composites"; Japan Journal of Applied Physics, Vol 40; pgs 4948-4951; 2001

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